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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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LAW OFFICE OF LIAUH & ASSOCIATES  
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EXAMINER

JOLLEY, KIRSTEN

ART UNIT

PAPER NUMBER

1762

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/832,048

Applicant(s)

SHEU ET AL.

Examiner

Kirsten Crockford Jolley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: The term "PCR" is used throughout the specification, however the specification does not appear to disclose what the acronym stands for. The Examiner requests that the acronym "PCR" is spelled out in words upon on its first use in the specification.

Appropriate correction is required.

### *Claim Objections*

2. Claims 2-15 are objected to because of the following informalities:

Claim 4, line 2, it is noted that "deterious" is not a standard English word, *per Merriam-Webster's Collegiate Dictionary, 12<sup>th</sup> Edition*. The Examiner suggests replacing "deterious" with --deteriorating-- or --deteriorative--, for example.

In claim 6, line 1, the Examiner suggests replacing "said polymer" with --said polymers-- since claim 5 uses the plural term "polymers".

In line 1 of claims 2, 6, 7, 8, 9, 10, 12, 13, 14, and 15, the Examiner suggests replacing the phrase "can be" with --is--, --are--, or --comprises-- in order to positively set forth the claim limitations.

In line 1 of claims 4, 5, and 11, the Examiner suggests replacing the phrase "refers to" with --comprises-- in order to positively set forth the claim limitations.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite because it is in improper form for U.S. practice. A claim should be in the form of a single sentence -- each claim begins with a capital letter and ends with a period. Periods may not be used elsewhere in the claims except for abbreviations. See *Fressola v. Manbeck*, 36 USPQ2d 1211 (DDC 1995). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation, 37 CFR 1.75(i). See MPEP 608.01(m).

Claim 1, lines 2-5, are vague and indefinite because it is not clear whether the claimed method requires labeling the ribonucleic acid in medium onto or into objects in the alternative to, or in addition to, mixing the medium directly with liquid or solid. For the purpose of examination, claim 1 has been interpreted as requiring mixing a ribonucleic acid in a medium, and then adding the ribonucleic acid-containing medium onto or into objects *or* mixing the ribonucleic acid-containing medium with a liquid or solid.

In claim 1, lines 6-8, it is not clear whether an authenticity check using solvent and subsequent PCR amplification method is required. For the purpose of examination, the claims

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have been interpreted as requiring authenticity check using solvent and subsequent PCR amplification method.

In claim 1, line 7, the use of the term "PCR" additionally renders the claim vague and indefinite. It is not clear what the acronym "PCR" stands for, and such does not appear to be disclosed in the specification. The Examiner requests that the acronym PCR is spelled out upon its first use in the claims. Similarly, in claim 15, it is not clear what "PCR" stands for.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 7-13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0 477 220 B1.

EP '220 discloses a method of adding a ribonucleic acid in a medium and mixing the ribonucleic acid-containing medium directly into a liquid or solid for labeling (page 3, lines 43-56). EP '220 teaches that the authenticity of the liquid is check using a recovery method with solvent (page 4, lines 22-27), followed by subsequent PCR amplification (page 4, lines 30-47).

As to claims 2 and 3, EP '220 teaches that the ribonucleic acid can be DNA or RNA (page 3, lines 15-17), or it can be synthesized (page 3, lines 18-26). As to claim 4, EP '220 teaches that the medium may be inert (page 3, lines 43-44). As to claim 5, EP '220 teaches that the carrier may be a polymeric substance (page 3, lines 49-51).

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As to claims 7-8, EP '220 teaches that the liquid into which the ribonucleic acid-containing medium is mixed may be a water insoluble (oil-based) ink (page 6, lines 34-37).

Since claim 7 requires mixture into ink, glue, or polymers in the alternative, and since claims 9 and 10 do not specifically require that the liquid or solid is glue or polymers, claims 9 and 10 are also anticipated by EP '220's teaching that the ribonucleic acid-containing medium is mixed into an ink because glue and polymers were not selected as the liquid or solid in rejecting claim 7.

As to claims 11-13, EP '220 teaches that organic or inorganic solvents may be used for recovery, specifically water, a buffer, or chloroform (page 4, lines 22-27). As to claim 15, EP '220 teaches single PCR (page 4).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 477 220 B1.

As to claim 6, EP '220 lacks a teaching that the polymeric substances acting as a carrier for the ribonucleic acid may be a plastic. EP '220 teaches at page 3, lines 49-50, that "polymeric substances can be used to electrostatically bind to and encapsulate the nucleic acids." It is well known that most synthetic polymeric substances are plastics. It would have been obvious to have chosen a synthetic polymeric substance/plastic to act as a medium and electrostatically bind

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and encapsulate the nucleic acids with the expectation of success since EP '220 is not limited to the type of polymeric substances that may be used in its process.

As to claim 14, EP '220 lacks a teaching that the buffer used for extraction is a phosphate-based buffer. However, it is noted that EP '220 teaches the use of high molarity salt buffers at page 4, line 24. It is well known in the ribonucleic acid marking art that phosphate buffers are a known type of buffer used for recovery of taggants. It would have been obvious for one having ordinary skill in the art to have used a phosphate buffer as the high molarity salt buffer in its recovery step with the expectation of successful results since phosphate buffers are salt buffers and since they are well known in the art.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Slater et al. (US 5,643,728) is cited to teach that taggants can be dissolved in solvents, or attached to hydrophobic beads, as carrier mediums in authentication processes using PCR amplification and authentication (col. 15, line 50 to col. 16, line 36). Bertling et al. (US 6,261,809) is cited to teach a marking composition where the ribonucleic acid can be absorbed by a carrier (col. 3, lines 25-27), and PCR amplification is used for authentication. Bancroft et al. (US 6,312,911) is cited for its teaching of using DNA taggants in marking compositions where PCR amplification is used for authentication.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten Crockford Jolley whose telephone number is 703-306-5461. The examiner can normally be reached on Monday to Thursday and every other Friday.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193.

kcj

December 2, 2002

  
SHRIVE P. BECK  
SUPERVISORY PATENT EXAMINER  
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